REMARKS/ARGUMENTS

Claims 1-12, 23, 25, and 26 are active. Claims 13-22 have been withdrawn from consideration. Claim 5 has been revised to correct a spelling error, claim 26 to omit "polyoxyethylene hydrogenated castor oil", and new claim 27 to require this alkoxylated glyceride. No new matter has been added. Favorable consideration of this Amendment is respectfully requested.

Restriction/Election

The Applicants previously elected with without traverse **Group I**, claims 1-12, directed to a composition comprising a sulfonylurea and an alkoxylated glyceride. The Applicants respectfully request that the claims directed to any non-elected subject matter which depend from or otherwise include all the limitations of an allowed elected claim, be rejoined and allowed upon an indication of allowability for the elected claim, see MPEP 821.04.

Objection

Claim 5 was objected to as containing an informality. This issue is now moot.

Rejection—35 U.S.C. §103(a)

Claims 1-12, 23, 25 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Maeda, et al., U.S. Patent No. 5,830,827, in view of Anderson, et al., Alkoxylated Glyceride Emulsifiers in Agricultural Applications. This rejection cannot be sustained because neither document suggests or provides a reasonable expectation of success for the superior functional properties of the specific combination of a herbicidal sulfonylurea and alkoxylated glyceride of the invention. The Office has not provided any reason to select

the particular combination of a herbicidal sulfonylurea (as opposed to numerous other herbicidal compounds described by the cited art) and an alkoxylated glyceride (in distinction to any of the numerous other excipients described by the cited art).

Missing here is the required "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *See KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 82 USPQ.2d 1385, 1396 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

Anderson was newly applied, but does not disclose a herbicidal sulfonylurea, thus, it cannot suggest or provide a reasonable expectation of success for the selective combination of particular sulfonylureas and particular alkoxylated glycerides of the invention. Page 4, lines 18 *ff.* of the OA indicates "Anderson et al. teach ethoxylated glycerides have long been known as effective and safe emulsifiers in agriculture" and states that the U.S. EPA restricts their use to a single triglyceride, castor oil, for use on crops. Initially, this rationale would not apply to claim 26, which now omits the term polyoxyethylene hydrogenated castor oil. Moreover, assuming *arguendo* that the EPA restricts herbidical mixtures to only those using castor oil triglycerides, those with skill in the art would interpret this as a **teaching away** from the equivalence of other alkoxylated glycerides in herbicidal compositions.

As discussed in the prior arguments, Maeda does not render the present invention obvious because it provided no motivation to select the particular combination of sulfonylurea herbicide and alkoxylated glyceride. Possibly, in view of the application of the new reference, the Applicants' prior, extensive, and experimental data-based arguments, which are substantially reiterated below, were not specifically addressed by the OA. These remain unrebutted.

There is no suggestion in the prior art to make this selection in view of the huge genus of formulants disclosed by Maeda and in view of the experimental data of record showing the

surprising and superior properties obtained by making the selections required by the invention, see MPEP 2144.08 (4)(a-f) which requires that the Examiner (a) consider the size of the prior art genus, (b) the express teachings of the prior art regarding selection of a subgenus, (c) prior art teachings of preferred or optimal structural species of subgenuses, (d) prior art teachings regarding similar properties or uses to that of the invention, (e) predictability of the technology. In the present case, the prior art discloses a huge genus of formulants, provides no suggestion to select structures of compounds similar to those of the invention, does not provide a reasonable expectation of success for the superior functional properties provided by making the selections required by the invention, nor predict that such selections would provide the superior functionality demonstrated by the experimental data of record.

These experimental data show that a representative number different sulfonylurea herbicides have significantly increased herbicidal activity when admixed with numerous different alkoxylated glycerides, but much less activity when admixed with other non-ionic surfactants (e.g., *Citowett*) or *Tween-20*; or cationic surfactants (e.g., *Frigate*). Maeda fails to suggest the selection of a alkoxylated glyceride surfactant and does not provide a reasonable expectation of success for the enhanced herbicidal properties of such a selection.

Maeda is directed to the combination of flazasulfuron, a chemical stabilizer, and a carrier (coadjuvants). The bottom of page 4 of the OA indicates that "Maeda does not disclose a specific example comprising a surfactant", but asserts that it would have been obvious to add 0.1% to 10% of certain nonionic surfactants to improve the physical properties of a herbicide composition (see col. 5, line 18, which discloses "The amount of surfactants is usually from 0. 1 to 10.0 parts by weight"). However, Maeda, col. 2, line 36-col. 3, line 22, discloses a huge number of different formulants for admixture with a herbicide. There is no specific guidance in Maeda to single out an alkoxylated glyceride for

admixture with sulfonylurea herbicide, nor any recognition that this combination would provide a superior herbicidal effect compared to any other combination of the formulants mentioned in cols. 2 and 3. As discussed during the last interview, the **selection** of an alkoxylated glyceride (as opposed to numerous other formulants disclosed by Maeda) provides surprising and superior herbicidal properties.

To further emphasize the superior herbicidal effects of the claimed combination, the Applicants were encouraged to point out the nature of the other surfactants compared to alkoxylated glycerides in the Examples in the specification.

(A) Comparative surfactants. The specification shows these superior herbicidal properties in comparison to the prior art *Citowett* and *Frigate* herbicide surfactants.

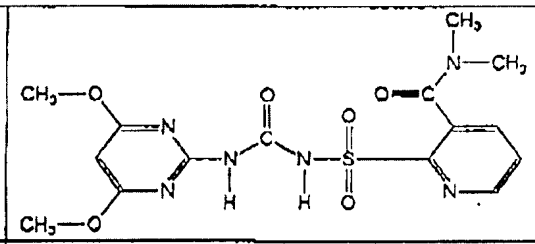
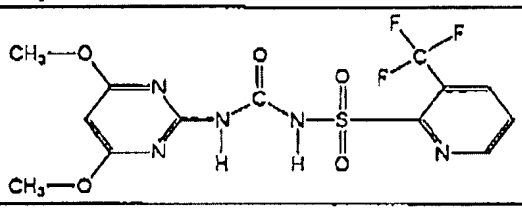
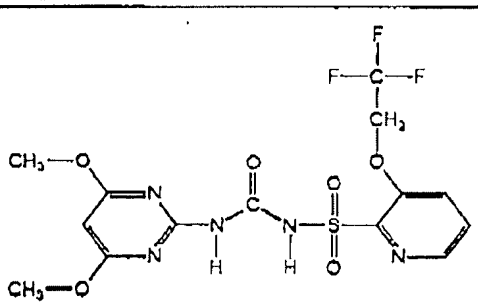
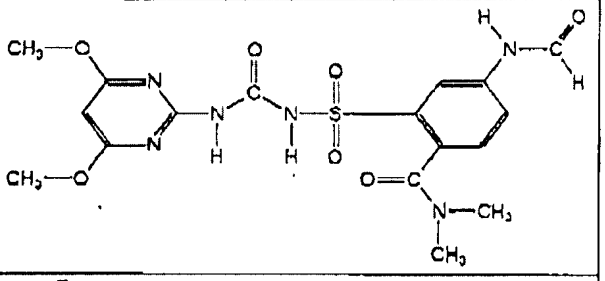
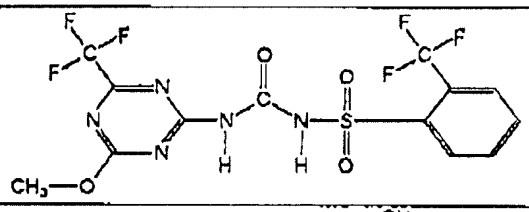
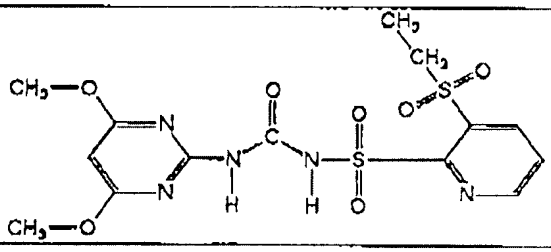
Maeda discloses *Citowett* which corresponds to "polyethylene alkylaryl ether" in the second column, line 55 of this patent. Maeda is silent about whether to select an inferior[1] surfactant like *Citowett*, or an alkoxylated glyceride required by the invention.

Maeda, col. 2, lines 57-58, also discloses "polyoxyethylene sorbitan fatty acid ester" which corresponds to the comparative surfactant Tween 20 (polyoxyethylene sorbitan monolaurate) described in Test Example 2 of the present application. As shown in Table 2 on page 49, use of *Tween 20* in combination with a sulfonylurea herbicide provided significantly inferior herbicidal effect compared to combinations containing each of the eight different alkoxylated glycerides tested.

Sulfonylurea herbicide combinations including *Frigate,* a cationic surfactant, were also compared to combinations containing alkoxylated glyceride surfactant. This cationic surfactant when mixed with a sulfonylurea herbicide did not provide the significantly superior herbicidal effect of the invention, see e.g., Tables 1, 9 and 14 of the specification.

[1] See the inferior herbicidal properties of combinations using *Citowett* in Table 3 (page 50), Table 4 (page 52), Table 5 (page 53)Table 6 (page 54), etc.

(B) The superior herbicidal effect is not limited to a single species of sulfonylurea herbicide. The Examples in the specification show that the superior herbicidal effects are obtained for a number of chemically different types of sulfonylurea herbicides and thus provide a representative number of species to support the claimed genus of sulfonylurea herbicides. The table below depicts six different sulfonylurea's (nicosulfuron, flazasulfuron, trifluoxysulfuron, foramsulfuron, trisulfuron and rimsulfuron) used in Examples of the present application. These structures are reasonably representative of the genus of sulfonylurea herbicides and they take into account the variation of chemical structures within this class of herbicides including species representing both the pyridine- and benzene-types of sulfonylurea herbicides (see the ring structures on the right). Accordingly, the Applicants respectfully submit that the Examples in the specification adequately and reasonably represent the genus of sulfonylurea herbicides described by the present claims.

Nicosulfuron	
flazasulfuron	
trifloxysulfuron	
foramsulfuron	
tritosulfuron	
rimsulfuron	

(C) The superior herbicidal effect is not limited to single species of alkoxylated glycerides. The superior herbicidal properties of the invention are also supported by results

showing that a representative number of different alkoxylated glycerides in combination with a sulfonylurea herbicide provide superior herbicidal properties. For example, Table 1 on page 47 shows the superior properties of combinations including eight different types of alkoxylated glycerides and a sulfonylurea herbicide. Tables 2 and 3 also provide similar comparisons. In order to improve the herbicidal effects of sulfonylurea, a herbicidally active ingredient has to pass through a wax layer in plant leaves to penetrate the interior of the leaves. A sulfonylurea is hydrophilic and has relatively high solubility in water and hardly passes through the more hydrophobic wax layer. The inventors have found that selection of an alkoxylated glyceride allows a sulfonylurea to penetrate the wax layer on leaves and exhibit a herbicidal effect inside the leaf. Not all surfactants provide this property.

In the present application, a surfactant having a structure wherein a fatty acid and glycerol which are similar to vegetable oils and have compatibility with a wax layer are bonded to a hydrophilic polyoxyalkylene is combined with sulfonylurea, whereby the herbicide effect of sulfonylurea can be remarkably improved.

The feature of the present invention is neither described nor suggested by Maeda, which cannot suggest selection of this class of surfactants, nor provide a reasonable expectation of success for this property of alkoxylated glycerides. Moreover, the experimental data of record shows that these superior herbicidal effects are realized for combinations involving representative numbers of chemically distinct species of both sulfonylurea herbicides and alkoxylated glycerides. Accordingly, this rejection cannot be sustained.

Conclusion

In view of the amendments and remarks above, the Applicants respectfully submit that this application is now in condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

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